

Amendments to the Claims

This listing of the claims will replace all prior versions, and listings, of claims in this application.

Claim 1 (previously presented): A method for fabricating a porous silica sphere comprising:

heat-treating a silica gel by increasing its temperature at a speed of 5 to 90°C per minute to 1050 to 1200°C; and

maintaining the temperature for a predetermined time, wherein the heat-treatment is performed in a rotary tube furnace.

Claim 2 (original): The method of claim 1, wherein the silica gel has pores with a size of about 20–70 angstroms, and a pore volume of around 0.3 to 1.1 mL/g.

Claim 3 (cancelled).

Claim 4 (original): The method of claim 1, wherein the heat-treatment is performed at an average temperature elevating speed ranging from 10°C to 70°C per minute.

Claim 5 (cancelled).

Claim 6 (previously presented): A method for fabricating a porous silica sphere comprising:

a heat treatment process, wherein silica gel is subjected to a first heat-treatment at 400 to 900°C, and is subjected to a second heat-treatment at 1050 to 1200°C in which the heat-treatment process is performed using at least two rotary tube furnaces and, in the first heat-treatment, the temperature in a first rotary tube furnace is increased at an average speed of 35 to 70°C per minute.

Claim 7 (original): The method of claim 6, wherein the first heat treatment is performed for 20 to 60 minutes, and the second heat treatment is performed for 20 to 60 minutes.

Claim 8 (cancelled).

Claim 9 (previously presented): The method of claim 6, wherein the silica gel is subjected to the second heat treatment, in a second rotary tube furnace, at a temperature of 1100 to 1150°C.

Claim 10 (new): The method of Claim 1, wherein the porous silica sphere has a filling density between about 0.18 g mL⁻¹ and about 0.30 g mL⁻¹.

Claim 11 (new): A method comprising:

performing a heat-treatment on a silica gel for n minutes, wherein the heat-treatment includes a temperature increasing stage of duration about $n/2$ minutes, and a temperature maintaining stage of duration about $n/2$ minutes;

wherein during the temperature increasing stage the silica gel is heated at between about 5°C min⁻¹ and about 70°C min⁻¹;

wherein during the temperature maintaining stage the silica gel is maintained at between about 1050°C and about 1200°C; and

wherein the heat-treatment is performed in a rotary tube furnace.

Claim 12 (new): The method of Claim 11, wherein n is between about 20 minutes and about 60 minutes.